WHAT IS CLAIMED IS:

1. A gas cooled dynamoelectric machine, comprising:

a rotor having a body portion, said rotor having axially extending coils and end turns defining a plurality of endwindings extending axially beyond at least one end of said body portion; and

at least one spaceblock located between adjacent said endwindings so as to define cavities therebetween, said spaceblock having first and second side walls engaging said adjacent endwindings, an upstream wall, and a downstream wall, said downstream wall of said spaceblock having a non-planar contour to lower a suction pressure developed adjacent a trailing edge of the spaceblock to enhance cooling flow.

2. The dynamoelectric machine of claim 1, wherein said downstream wall has a re-entrant contour to enhance rotating cavity cooling flow.

3. The dynamoelectric machine of claim 2, wherein said downstream wall is defined as a generally part circular concave curve.

4. The dynamoelectric machine of claim 1, wherein said upstream wall is generally planar.

5. The dynamoelectric machine of claim 2, wherein said spaceblock is comprised of a generally rectangular main body portion and a re-entrant portion, said main body portion defining said upstream wall and portions of said side walls, and said re-entrant portion defining other portions of said side walls, and said downstream wall.

6. The dynamoelectric machine of claim 5, wherein said downstream wall is defined as a generally part circular concave curve.

7. The dynamoelectric machine of claim 5, wherein said upstream wall is generally planar.

8. The dynamoelectric machine of claim 5, wherein said re-entrant portion is integrally formed with said main body portion.

9. A gas cooled dynamoelectric machine, comprising:

a rotor having a spindle and a body portion;

a rotor winding comprising axially extending coils disposed on said body portion and spaced, concentric endwindings extending axially beyond at least one end of said body portion, said endwindings and said spindle defining an annular space therebetween;

a plurality of spaceblocks located between adjacent ones of said endwindings thereby to define a plurality of cavities, each bounded by adjacent spaceblocks and adjacent endwindings and open to said annular space; and

each said spaceblock having first and second side walls engaging said adjacent endwindings, an upstream wall, and a downstream wall, said downstream wall of at least one of said spaceblocks having a non-planar contour to lower a suction pressure developed adjacent a trailing edge of the spaceblock to enhance cooling flow.

10. The dynamoelectric machine of claim 9, wherein said non-planar downstream wall has a re-entrant contour to enhance rotating cavity cooling flow.

11. The dynamoelectric machine of claim 10, wherein said non-planar downstream wall is defined as a generally part circular concave curve.

12. The dynamoelectric machine of claim 9, wherein said upstream wall of each said spaceblock is generally planar.

13. The dynamoelectric machine of claim 1, wherein said at least one spaceblock is comprised of a generally rectangular main body portion and a re-entrant portion, said main body portion defining said upstream wall and portions of said side walls, and said re-entrant portion defining other portions of said side walls, and said downstream wall.

14. The dynamoelectric machine of claim 13, wherein said downstream wall is defined as a generally part circular concave curve.

15. The dynamoelectric machine of claim 13, wherein said upstream wall is generally planar.

16. The dynamoelectric machine of claim 13, wherein said re-entrant portion is integrally formed with said main body portion.